

IN THE CLAIMS:

1 - 16 (Cancelled)

17 (New) A router for guiding a plurality of conductors, the router including:

a routing unit having first and second surfaces and formed with a plurality of contiguous open-ended hollow paths, the open-ended hollow paths being directed in a free-form manner from the first surface through the routing unit to the second surface and adapted for receiving the plurality of conductors, the routing unit constructed in accordance with a three dimensional fabrication process including the steps

5 incrementally forming a portion of the router; and
10 iterating the incrementally forming step until the router is complete.

18. (New) A router according to claim 17 wherein the incrementally forming step comprises a three-dimensional additive technique.

19. (New) A router according to claim 17 wherein the incrementally forming step comprises a three-dimensional subtractive technique.

20. (New) A router according to claim 17 wherein the routing unit comprises a block of dielectric material.

21. (New) A router according to claim 17 wherein the routing unit comprises a block of thermally conductive material.

22. (New) A hybrid conductor/board comprising:
a routing unit having first and second surfaces and formed with a
plurality of contiguous open-ended hollow paths, the open-ended hollow paths being
directed in a free-form manner from the first surface through the routing unit to the
5 second surface, the routing unit constructed in accordance with a process including the
steps
incrementally forming a portion of the router; and
iterating the incrementally forming step until the router is
complete; the hybrid conductor/board further including
10 a plurality of conductors routed through the contiguous open-ended
hollow paths.

23. (New) A hybrid conductor/board according to claim 22 wherein at least
one of the plurality of conductors comprises an electrical conductor.

24. (New) A hybrid conductor/board according to claim 22 wherein at least
one of the plurality of conductors comprises an optical conductor.

25. (New) A hybrid conductor/board according to claim 22 wherein at least
one of the plurality of conductors comprises a fluid conductor.

26. (New) A hybrid conductor/board according to claim 22 wherein the
incrementally forming step comprises a three-dimensional additive technique.

27. (New) A hybrid conductor/board according to claim 22 wherein the
incrementally forming step comprises a three-dimensional subtractive technique.

28. (New) A hybrid conductor/board according to claim 22 wherein:
the routing unit first and second surfaces comprise oppositely disposed
planar surfaces; and
the plurality of conductors extend from one planar surface to the other
5 planar surface, and include respective opposite ends terminated on each of the
respective planar surfaces to form respective first and second contact arrays.

29. (New) A hybrid conductor/board according to claim 28 wherein:
the first contact array has a contact-to-contact spacing substantially
greater than that of the second contact array.

30. (New) An automatic test equipment interface for funneling signal
conductors from a plurality of pin electronics boards to one or more devices-under-
test, the interface including:

- a hybrid conductor/board comprising:
 - 5 a routing unit having first and second surfaces and formed with a plurality of contiguous open-ended hollow paths, the open-ended hollow paths being directed in a free-form manner from the first surface through the routing unit to the second surface,
 - a plurality of conductors routed through the contiguous open-
 - 10 ended hollow paths; and
 - a device interface board for coupling to the hybrid conductor/board and adapted to connect to the one or more devices-under-test.

31. (New) An automatic test equipment interface according to claim 30
wherein the plurality of conductors are of equal length.

32. (New) Automatic test equipment for testing one or more devices-under-test, the automatic test equipment including:

a computer workstation; and

a testhead coupled to the computer workstation and including

5 a plurality of pin electronics boards, and

an interface for funneling signal conductors from the pin electronics boards to the one or more devices-under-test, the interface including

a hybrid conductor/board comprising:

a routing unit having first and second surfaces

10 and formed with a plurality of contiguous open-ended hollow paths, the open-ended hollow paths being directed in a free-form manner from the first surface through the routing unit to the second surface,

a plurality of conductors routed through the contiguous open-ended hollow paths; and

15 a device interface board for coupling to the hybrid conductor/board and adapted to connect to the one or more devices-under-test.